

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number  
WO 2005/083471 A1

(51) International Patent Classification<sup>7</sup>: G01W 1/10

[CH/CH]; Risigrundstrasse 6, CH-8903 Birmensdorf (CH).  
**HECK, Pamela** [DE/CH]; Froburgstrasse 1a, CH-4410 Liestal (CH). **LEMCKE, Gerry** [DE/US]; 60 Reymont Ave, Rye, NY 10580 (US).

(21) International Application Number: PCT/EP2004/050981

(22) International Filing Date: 1 June 2004 (01.06.2004) (74) Agent: BOVARD LTD.; Optingenstrasse 16, CH-3000 Berne 25 (CH).

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

(30) Priority Data: 10/787,791 26 February 2004 (26.02.2004) US

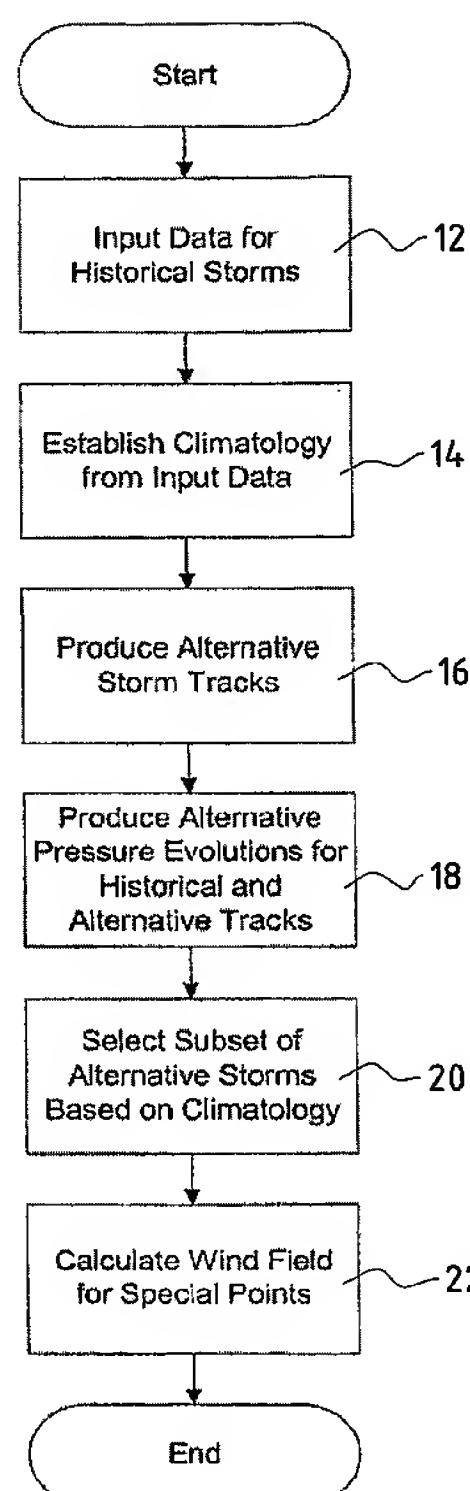
(71) Applicant (for all designated States except US): SWISS REINSURANCE COMPANY [CH/CH]; Mythenquai 60, CH-8002 Zürich (CH).

(72) Inventors; and  
(75) Inventors/Applicants (for US only): BRESCH, David, N.

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR AUTOMATED LOCATION DEPENDENT PROBABILISTIC TROPICAL CYCLONE FORECAST

(57) **Abstract:** The invention relates to a method for automated location dependent probabilistic tropical cyclone forecast, whereas a plurality of new data records representative of alternative tracks are generated based of historical tracks by means of a first MonteCarlo-module, wherein points of the new data records are generated from said points along the historical track by a dependent sampling process, whereas a intensity climatology is generated, based upon the intensity data associated with at least some of the plurality of points along the historical tracks located within a certain grid cell, whereas now intensity data are generated by means of a second MonteCarlo-module, wherein the new intensity data are generated from the intensity data associated with at least some of the plurality of points along the historical tracks by a MonteCarlo sampling process, whereas the distribution of the historical tracks are reproduced by a filtering module within the new or accumulated data records, and whereas a wind field of each data record is generated and a probability is assigned by a interpolation-module to each point in said grid, giving the probability of the occurrence of a specific wind strength at a given geographical location and time.



WO 2005/083471 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*